REMARKS

In the Office Action, claims 1-5, 13-17, 19 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,779,486 (Ho) in view of U.S. Patent No. 6,000,945 (Sanchez-Lazer).

Claims 1, 2, 5 and 13 have been amended. Upon entry of this Amendment, claims 1-5, 13-17, 19 and 20 will remain pending. For the reasons set forth hereinbelow, Applicants respectfully request that the rejections associated with the pending claims be withdrawn.

Claims 1-4

Applicants submit that claim 1 is nonobvious over Ho in view of Sanchez-Lazer because the cited references, whether considered alone or in combination, fail to teach or suggest each and every limitation of claim 1. *See* MPEP §2143 (stating that one of the elements of a *prima facie* case of obviousness under §103(a) is that the prior art references must teach or suggest all of the claim limitations). More particularly, Applicants submit that the combination of Ho and Sanchez-Lazer fails to teach or suggest, among other things, "generating a test item variant of the test item by assigning values to the variables using a simultaneous constraint solver, wherein the simultaneous constraint solver resolves one or more constraints **pertaining to the variables**," as recited in claim 1.

The Examiner correctly states that Ho "does not disclose expressly using a simultaneous constraint solver." The Examiner further states that Sanchez-Lazer teaches the use of a simultaneous constraint solver. However, the manner in which Sanchez-Lazer uses the simultaneous constraint solver is substantially different from the manner in which the constraint solver is used in claim 1.

Sanchez-Lazer uses its simultaneous constraint solver "to generate **tests** using an automated **item selection** algorithm." Sanchez-Lazer, col. 7, ll. 4-5. Sanchez-Lazer further requires searching for "at least one characteristic of test items that are needed **for the test**." *See* 3:44-45. Thus, Sanchez-Lazer merely teaches using at least one test item characteristic to select test items that are appropriate for a particular test from a pool of test items.

In contrast, claim 1 requires "generating a test item variant of the test item by assigning values to the variables using a simultaneous constraint solver, wherein the simultaneous constraint solver resolves one or more constraints pertaining to the variables." In other words, a

test item variant, which is a variant of an obtained test item, **is generated** using the constraint solver. The test item variant is not selected from a pool of available test items, but is generated anew by assigning values to the variables of a test item model by using a simultaneous constraint solver to resolve one or more constraints. Moreover, the constraints pertain to variables of a test item model and not a characteristic of stored test items.

As such, Applicants submit that independent claim 1 is nonobvious over the combination of Ho and Sanchez-Lazer because the cited references fail to teach or suggest each and every limitation of claim 1. *See* MPEP §2143. Applicants further submit that claims 2-4, which depend from and incorporate all of the limitations of claim 1, are also nonobvious over the cited references. *See* MPEP §2143.03 (stating that if an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious). Accordingly, for the reasons set forth hereinabove, Applicants request that the §103(a) rejections associated with claims 1-4 be withdrawn.

Claim 5

Applicants submit that claim 5 is nonobvious over Ho in view of Sanchez-Lazer because the cited references, whether considered alone or in combination, fail to teach or suggest each and every limitation of claim 5. *See* MPEP §2143. More particularly, Applicants submit that the combination of Ho and Sanchez-Lazer fails to teach or suggest, among other things, "using a simultaneous constraint solver to determine values for the variables based on the constraints" or "generating a test item variant with the determined values," as recited in claim 5.

The Examiner correctly states that Ho "does not disclose expressly using a simultaneous constraint solver." Moreover, Ho does not generate a test item variant with values determined by a simultaneous constraint solver.

The Examiner further states that Sanchez-Lazer teaches the use of a simultaneous constraint solver. However, the manner in which Sanchez-Lazer uses the simultaneous constraint solver is substantially different from the manner in which the constraint solver is used in claim 5. Sanchez-Lazer uses its simultaneous constraint solver "to generate **tests** using an automated **item selection** algorithm." Sanchez-Lazer, 7:4-5. Sanchez-Lazer further requires searching for "at least one characteristic of test items that are needed **for the test**." *See* 3:44-45.

-5-

Thus, Sanchez-Lazer merely teaches using at least one test item characteristic to select test items that are appropriate for a particular test from a pool of test items.

In contrast, claim 5 requires "using a simultaneous constraint solver to **determine values** for the variables based on the constraints" and "generating a test item variant with the determined values." As such, values for variables of a test item or a test item model for such identified elements are determined using a simultaneous constraint solver and are used to generate a test item variant. As such, claim 5 teaches **generating** a test item variant using a simultaneous constraint solver, not **selecting** a test item from a database using a constraint solver as is disclosed in Sanchez-Lazer.

As such, Applicants submit that independent claim 5 is nonobvious over the combination of Ho and Sanchez-Lazer because the cited references fail to teach or suggest each and every limitation of claim 1. *See* MPEP §2143. Accordingly, for the reasons set forth hereinabove, Applicants request that the §103(a) rejections associated with claim 5 be withdrawn.

Claims 13-17, 19 and 20

Applicants submit that claim 13 is nonobvious over Ho in view of Sanchez-Lazer because the cited references, whether considered alone or in combination, fail to teach or suggest each and every limitation of claim 13. *See* MPEP §2143. More particularly, Applicants submit that the combination of Ho and Sanchez-Lazer fails to teach or suggest, among other things, "simultaneously solving test item model constraints **pertaining to variables of the selected test item model** and generating test item solutions based on the selected test item model," as recited in claim 13.

For substantially the same reasons as stated above in reference to claims 1 and 5, Applicants submit that independent claim 13 is nonobvious over the combination of Ho and Sanchez-Lazer because the cited references fail to teach or suggest each and every limitation of claim 13. *See* MPEP §2143. Applicants further submit that claims 14-17, 19 and 20, which depend from and incorporate all of the limitations of claim 13, are also nonobvious over the cited references. *See* MPEP §2143.03. Accordingly, for the reasons set forth hereinabove, Applicants request that the §103(a) rejections associated with claims 13-17, 19 and 20 be withdrawn.

-6-

All of the stated grounds of rejection have been properly traversed, accommodated or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. There being no other rejections, Applicants respectfully request that the current application be allowed and passed to issue.

If the Examiner believes for any reason that personal communication will expedite prosecution of this application, I invite the Examiner to telephone me directly.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for this Amendment and Response, or credit any overpayment, to deposit account no. 50-0436.

Respectfully submitted,
PEPPER HAMILTON LLP

Joseph T. Helmsen
Registration No. 54,163

Pepper Hamilton LLP
One Mellon Center, 50th Floor
500 Grant Street
Pittsburgh, PA 15219
Telephone: 412.454.5000
Facsimile: 412.281.0717
Date: August 1, 2006